

**A. Amendments to the Specification:**

Please replace paragraph [0004] with the following amended paragraph:

[0004] Some damaged or diseased lumens, however, have quite complex shapes. For example, the root portion of the aorta is provided sinuses or bulges that surround the aortic valve, which are called the sinuses of Valsalva. The diameter and orifice area of the aortic root are greater at the vicinity of the sinuses as compared to other portions of the root. With such a complex geometry, implantable grafts matching such complexity have often been made by suturing differently shaped graft components together. For example, U.S. Patent No. 6,352,554 to DePaulis describes a method for forming a graft for the aortic root by suturing a bulbous woven section in between two straight tubular woven sections. Further, the bulbous woven section is also formed cutting or otherwise attaching woven materials. Such techniques are not only costly as numerous textile portions must be sutured to one and the other, but also serve as a potential source for leakage as it is difficult to suture fluid-tight seams among the textile components.

Please replace paragraph [0015] with the following amended paragraph:

[0015] The step of scalloping the bulbous end further may further include the step of cutting the bulbous woven portion along longitudinal portions to define edges of a plurality of petal-like projections. The cutting may be ultrasonic cutting. Alternatively, the step of scalloping the bulbous end may further include the step of seamlessly weaving a plurality of petal-like projections extending from the bulbous end. Such weaving may include weaving selvages to define woven edges of the petal-like projections.

Please replace paragraph [0021] with the following amended paragraph:

[0021] It has been discovered through the present invention that tubular woven textile products such as multi-lobed or multi-petaled vascular grafts can be seamlessly woven into a variety of complex, varied-diameter shapes and sizes, without the need for any post-weaving

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fabrication techniques such as cutting, sewing, suturing and the like. One method for seamlessly weaving shaped tubular grafts is disclosed in U.S. Patent No. 5,800,514 to Nunez et al., the contents of which are incorporated herein by reference. This patent describes shaped woven tubular grafts having a gradual woven transition between different sized or shaped tubular graft portions. For the more complex shaped grafts of the present invention such a gradual woven transition, however, may not result in a seamless graft which anatomically matches complex lumen contours, such as the aortic root. One method for weaving such more complexly shaped graft is described in U.S. Parent Application No. 10/823,456 titled "Varied Diameter Vascular Graft", ~~Attorney Docket No. 760-182, and~~ filed on April 12, 2004 ~~same date herewith~~, the contents of which is incorporated herein by reference.

Please replace paragraph [0024] with the following amended paragraph:

[0024] The bulbous section 14 is depicted as a generally spherical section in FIG. 1. The present invention, however, is not so limited, and the bulbous section may have other outwardly extending or flared configurations. For example, the bulbous shape may be oblong.[[.]]  
Desirably, the bulbous section 16 or the petal-like projections 20a, 20b, 20c are contoured to mimic the shape of the sinuses of Valsalva.

Please replace paragraph [0029] with the following amended paragraph:

[0029] Further, the first bulbous end may include a textile portion having an increasing number of warp yarns at the rate of at least three or more warp yarns for every two of the fill yarns for tubular woven portions and three or more warp yarns for every four of the fill yarns for flat woven fabric portions, such as the petal-like projections, and, optionally, a textile portion having ~~a an~~ decreasing number of warp yarns at the rate of at least three warp yarns or greater for every two of the fill yarns for tubular sections or for every four of the fill yarns for the fabric or sheet-like sections. The bulbous section may be formed by threadingly engaging additional warp yarns.

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Please replace paragraph [0041] with the following amended paragraph:

[0041] The step of step of scalloping the bulbous end further may further include the step of cutting the bulbous woven portion along longitudinal portions to define edges of a plurality of petal-like projections. The cutting may be ultrasonic cutting. Alternatively, the step of scalloping the bulbous end may further include the step of seamlessly weaving a plurality of petal-like projections extending from the bulbous end. Such weaving may include weaving selvages to define woven edges of the petal-like projections.

Please replace paragraph [0042] with the following amended paragraph:

[0042] The method according to the present invention may further include the step of radially crimping the woven tubular and the woven bulbous sections. Further, the crimping may further include radially crimping the petal-like projections. Alternatively, the graft of the present invention may be made self supporting with crimping by including a yarn with stiff compound, typically a monofilament yarn, such as a monofilament polyester yarn. Additionally, details are described in U.S. Patent No. 5,178,643, the contents of which are incorporated herein by reference.

Please replace paragraph [0046] with the following amended paragraph:

[0046] The graft of the present invention can be woven using any known weave pattern in the art, including, simple weaves, basket weaves, twill weaves, velour weaves and the like, and is preferably woven using a double velour tubular weave pattern. Details of double velour patterns are described in U.S. Patent No. 4,517,687 to Liebig et al., the contents of which are incorporated by reference herein. Desirably, the double velour pattern includes a satin weave where a warp yarn crosses over or under at least four fill yarns. The weave patterns may have from about 50-200 warp yarns (ends) per inch per layer and about 30-100 fill yarns (picks) per inch per layer. The wall thickness of the graft may be any conventional useful thickness, for example from about 0.1 mm to about 1.20 mm, desirably from about 0.5 mm to about 0.9 mm.

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Please replace paragraph [0047] with the following amended paragraph:

[0047] Such a heat setting process is accomplished by first flat-weaving the graft in a tubular form out of a material capable of shrinking during a heat setting process. After the graft is woven, the graft is placed on a mandrel, and heated in an oven at a temperature and time capable of causing the yarns of the graft to heat set to the shape and diameter of the mandrel. Preferably polyester yarns are used as the warp and fill yarns, and the heat setting is accomplished at time and temperatures appropriate for the material. For example, heat setting can be accomplished at about 190-200° C for a period of about 14-16 minutes. Other methods of heat setting may be employed, for example ultrasonic heat-setting, or through the use of steam as a heating source. One useful method of ultrasonic heat setting is described in U.S. Patent Application No. 10/822,955 titled[[],] "Ultrasonic Crimping Of A Varied Diameter Graft"; ~~Attorney Docket No. 760-184, and filed on April 12, 2004~~ the same date herewith, the contents of which are incorporated herein by reference. After heat setting the graft can be formed into a shape desired for implantation.